

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

First

Named

Inventor: Jian-Ku Shang

Examiner: Jill M. Gray

Serial No.: 10/797,582

Art Unit: 1794

Filing

Date: March 10, 2004

Confirmation No.: 4720

Title:

HIGH SURFACE AREA  
CERAMIC COATED FIBERS

**37 C.F.R. §1.131 DECLARATION**

Commissioner for Patents  
Washington, D.C. 20231

Dear Sir,

We, Jian-Ku Shang, Rongcai Xie, Zhongren Yue, and James Economy ("We" or "Affiants") hereby declare as follows:

1. We are the sole inventors of the subject matter that is claimed and for which a patent is sought on the invention entitled HIGH SURFACE AREA CERAMIC COATED FIBERS, having the Serial No. 10/797,582 and filed on March 10, 2004 (" '582 patent application ").

2. In the Office Action mailed on June 1, 2006, the Examiner cited as prior art under 35 U.S.C. §102(b) the reference Kim et al. ("Preparation of TiO<sub>2</sub> Fiber and its Photocatalytic Properties", Materials Science Forum, vol. 439, pp. 271-276 (2003)).

3. In the Office Action mailed on September 4, 2008, the Examiner cited as prior art the references Thierauf '397 (U.S. 2006/0099397) and Thierauf '712 (U.S. 2006/0078712).

4. This is a declaration of prior invention to overcome Kim et al., Thierauf '397 and Thierauf '712. As the sole inventors of the subject matter of the rejected claims, We hereby submit this oath to overcome Kim et al., Thierauf '397, and Thierauf '712.

#### **I. Showing of Facts Through Document Evidence**

5. Below are facts that show a conception of the invention on or before November 15, 2003, the effective date of Kim et al., as well as reasonable diligence from on or before November 15, 2003 to March 10, 2004, the constructive reduction to practice date of the '582 patent application.

6. The below facts also show a conception date on or before December 11, 2003, the effective date of Thierauf '397, as well as reasonable diligence from on or before December 11, 2003 to March 10, 2004, the constructive reduction to practice date of the '582 patent application.

7. Furthermore, the below facts show a conception date on or before December 11, 2003, the effective date of Thierauf '712, as well as reasonable diligence from on or before December 11, 2003 to March 10, 2004, the constructive reduction to practice date of the '582 patent application.

#### **A. Facts establishing conception**

8. The facts of the Exhibits are hereby incorporated by reference. Moreover, the facts below establish a conception of the invention on or before the November 15, 2003 effective date of Kim et al. and the December 11, 2003 effective date of Thierauf '397 and Thierauf '712.

### **1. Conception**

9. **Exhibit A** is a photocopy of an "Invention Disclosure Form" completed and executed by Jian-Ku Shang, Rongcai Xie, Zhongren Yue, and James Economy. This Invention Disclosure Form was received and dated by the Office of Technology Management at the University of Illinois on or before November 15, 2003. This Invention Disclosure Form shows conception of the invention claimed in the '582 patent application from on or before November 15, 2003. The date information has been redacted.

### **2. Effective date of Kim et al.**

10. As indicated on the first page of Kim et al. (attached herewith), the date on which Kim et al. is available as prior art under 35 U.S.C. §102(a) is November 15, 2003, namely, the date Kim et al. was published. Accordingly, the date for the '582 patent application to overcome is November 15, 2003.

### **3. Effective date of Thierauf '397**

11. Thierauf '397 claims priority to International Application No. PCT/DE03/01741, published as WO 03/101912 (" WO '912 "). Accordingly, the date on which Thierauf '397 is available as prior art under 35 U.S.C. §102(a) is December 11, 2003, namely, the date WO '912 was published. The effective date of Kim et al. is prior to the effective date of Thierauf '397. Accordingly, the date for the '582 to overcome remains November 15, 2003.

### **4. Effective date of Thierauf '712**

12. Thierauf '712 claims priority to International Application No. PCT/DE03/01743, published as WO 03/101913 (" WO '913 "). Accordingly, the date on which Thierauf '712 is available as prior art under 35 U.S.C. §102(a) is December 11, 2003, namely, the date WO '913 was published. The effective date of Kim et al. is prior to the effective date of Thierauf '712. Accordingly, the date for the '582 to overcome remains November 15, 2003.

**5. On or before the effective date of Kim et al.**

13. We allege that the aforementioned acts relied upon to establish the date of conception on or before the Kim et al., Thierauf '397, and Thierauf '712 references occurred on or before November 15, 2003.

**B. Facts establishing reasonable diligence**

14. We present the below facts to establish that there was reasonable diligence from on or before the effective date of Kim et al., November 15, 2003, to the constructive reduction to practice date of the present invention, March 10, 2004.

15. The below facts also establish that there was reasonable diligence from on or before the effective date of Thierauf '397, December 11, 2003, to the constructive reduction to practice date of the present invention, March 10, 2004.

16. Furthermore, the below facts establish that there was reasonable diligence from on or before the effective date of Thierauf '712, December 11, 2003, to the constructive reduction to practice date of the present invention, March 10, 2004.

17. The present invention was constructively reduced to practice on March 10, 2004, when the '582 patent application was filed in the United States.

18. As noted above, conception occurred on or before the November 15, 2003 publication date of Kim et al. We assert that there was reasonable diligence from on or before November 15, 2003 to the constructive reduction to practice date of March 10, 2004.

19. The time period between conception as of November 15, 2003 and the March 10, 2004 date of constructive reduction to practice is approximately four months. During this time period, Affiants and Affiants' representatives worked reasonably hard

and expeditiously to prepare, execute, and file the respective patent application in the United States.

For example, in preparation for drafting the respective patent application, just prior to November 15, 2003, a e-mail was drafted to Affiants' representatives providing details of the subject matter of the '582 application, a copy of which is attached at **Exhibit B**.

From November 21, 2003 to February 23, 2004, a series of e-mails were drafted between Affiant and Affiants' representatives, copies of which are attached at **Exhibit C**. The e-mails illustrate Affiants' representatives' diligence in preparing and filing a patent application for the present invention.

## **II. Allegations and Other Statements**

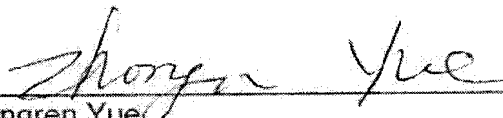
20. We allege that the acts relied upon to establish the date on or before Kim et al., Thierauf '397 and Thierauf '712 were carried out in one of (i) this country, (ii) in a NAFTA country, (iii) in a WTO member country, and (iv) as provided for under 35 U.S.C. §119 and 35 U.S.C. §365. Moreover, we allege that the above subject matter used to antedate Kim et al., Thierauf '397 and Thierauf '712 possesses utility.

**III. Signatures and Declaration in Lieu of Oath Under 37 CFR 1.68**

21. We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Jian-Ku Shang

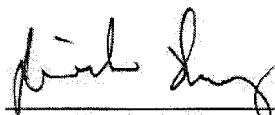
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Rongcai Xie

  
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Zhongren Yue

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James Economy

**III. Signatures and Declaration in Lieu of Oath Under 37 CFR 1.68**

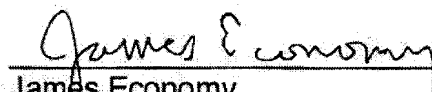
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Jian-Ku Shang

Dec. 3, 2008

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Rongcai Xie

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Zhongren Yue

  
James Economy

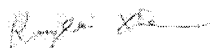
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Jian-Ku Shang



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Rongcai Xie

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Zhongren Yue

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James Economy